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THE INFLUENCE OF CLIMATE IN INTERNATIONAL ATHLETICS.

BY HAMBLEEN SEARS.

THE history of athletic meetings between Englishmen and Americans leaves it doubtful whether the results of these contests can be regarded as tests of the relative physical prowess of American and English athletes. Other factors have to be reckoned with, and this fact has been so obvious that the question has arisen : Is it possible for American athletes competing in England or for British athletes competing in the United States to equal, respectively, their own best work at home ? To this question no satisfactory answer has yet been given ; but it may not be uninteresting to consider it in the light of facts drawn from the international sports of recent years.

A close examination of the few international boat races seems to show that, while we have lost all but one, the loss has been largely attributable in each case to climatic influences. The Harvard four-oared crew which went to England in 1869 and rowed Oxford on the Thames from Putney to Mortlake, a distance of four miles and two furlongs, was probably the best amateur four-oared crew that had been known in this country up to that time. When this crew left the United States, another four-oar was organized at Cambridge for the annual meeting with Yale. The men on this crew were not in the same class with those who went abroad. In fact, considerable difficulty was encountered in getting four men together who could meet Yale on anything like equal terms. A few weeks before the race took place in England, word was received that bow and stroke of the Harvard crew had suddenly collapsed ; though the men, when they arrived on the Thames, had been in the best of condition. The collapsed bow and stroke gave place to two of the men from

the "second" Harvard boat, who at once proceeded to England. There were but few days in which the new crew could be trained, and hence the new men were obliged to go into the race practically before they had become settled in their boat. At the end of the race, which was lost to Oxford by six seconds, the two who had but just arrived were able to pull the distance through, while the two remaining oarsmen of the original crew collapsed at the finish. Here was the case of a good crew giving out in part after a few weeks' sojourn in the Thames valley, and the other two collapsing at the end of the race; while the two supposedly inferior men, newly arrived from the steamer, had strength still left within them when the fight was done.

Nine years later, in 1878, Columbia sent a four-oared crew to Henley for the mile and a furlong race. The boat was entered for the Stewards' Challenge Cup, and lost in the first heat to a crew that was defeated in the final heat. Later, Columbia won the Visitors' Challenge Cup, the competition for which was not so strong as for those in the more important contests.

In 1881 again Cornell sent a four-oared crew to Henley—a crew that had just won from all-comers at the American Intercollegiate Regatta on Lake George. They trained some time on the Thames and lost in an early heat. Other American crews, made up from rowing clubs, have entered the Henley races, but they have never succeeded in winning final heats.

The experiences of the Cornell and Yale crews in 1895 and 1896, respectively, are familiar matters, and they throw much interesting light on the question of training in foreign climes. The more these experiences are studied, the more evident it becomes that the differences of stroke have had less to do with victory or defeat in the international races on record than has the training of the men as influenced by the climatic conditions of the Thames Valley. Cornell, just before leaving for England in 1895 had a time row, and did the one mile and a furlong in a little under seven minutes. They then crossed the ocean and arrived in capital condition. Practice was begun at once on the Thames at Henley, and shortly after they were settled in their new quarters they did the distance on the course itself in something a little over seven minutes. Not many days later, they did the course in seven minutes and five seconds, when several Englishmen took the time. The day of the race with Trinity,

after the Leander walkover, they were beaten by the comparatively slow time of seven minutes and fourteen seconds. And the significant feature of the race, from our point of view, is that they were not only beaten, but that the crew collapsed about three hundred yards before reaching the finish. Here was a set of healthy men who rowed in their own country under seven minutes, and who gradually fell off in the strange country first to a little over seven minutes, then to seven minutes and five seconds, and who finally died a sixth of a mile before they reached the finish, trying to catch a crew which they had led for the first half of the race and which did the course in seven minutes and fourteen seconds.

Many reasons were given at the time for this defeat, the principal ones being that a forty-four stroke to the minute was not equal to a thirty-four, that the excitement of being in a strange land destroyed the nerve of the men, and finally that the rigging of the boat was not equal to Trinity's. But, looking at the matter in the light of history, and comparing this Cornell race with what followed as well as with what preceded it, the condition of the men at the time of the race appears to have been a controlling factor in the result.

The case of Yale in 1896 is precisely similar in its general features. Yale did better time on the course when her men first arrived than she did in the race. Leander finished in seven minutes and fourteen seconds, the same time as that made by Trinity the year before. But, though Yale came over the line less than two lengths behind, the Americans were completely exhausted, the Englishmen being still remarkably strong. The stroke cannot be given as a reason for this defeat, as Mr. Cook had a thirty-four to thirty-six stroke in his boat with long swing and narrow blades by the time the race came off. The definite point is that Yale, like Cornell and Harvard, did not, during the race, equal her best time done on the Thames that season, and that in all three cases the longer the men remained in the country the poorer was their time.

There is but one instance of an English crew's experiences in the United States. This was during the International Rowing Regatta held at Philadelphia during the Centennial Exposition of 1876. The Leander Boat Club and the London Rowing Club each sent a four-oared crew to enter these races, and the history

of the contests has little in it to prove or disprove the statement that crews in strange waters are handicapped by conditions. A four-oared crew which was stroked by Mr. Cook, the present Yale coach, was defeated by the London Rowing Club by a small margin, and the Leander boat steered such a wild course that they not only lost, but were completely out of the race.

During Henley week the races open to the world include those for the Grand Challenge Cup, eight oars; the Stewards' Challenge Cup, four-oars; the Visitors' Challenge Cup, four-oars; the Thames Challenge Cup, eight-oars; the Wyford Challenge Cup, four-oars; the Silver Goblets, pair-oars, and the Diamond Sculls for singles. Naturally, by far the greater number of entries for each of these events have been English; but during recent years a number of Canadian, American, Dutch, and other boats have been entered, and each season there are some foreign crews competing for most of the cups. In considering the following table, while the result rather overstates the case, there is nevertheless much to be learned from the fact that Englishmen win by far the greater number of events.

ANNUAL RACES.	ESTABLISHED.	NATIONALITY OF WINNERS.
Grand Challenge Cup, eight-oar.....	1839	English every year.
Stewards' Challenge Cup, four-oar..	1842	" " "
Visitors' Challenge Cup, four-oar....	1847	" " " except Columbia, 1878.
Thames Challenge Cup, eight-oar....	1868	English every year.
Wyford Challenge Cup, four-oar.....	1855	" " "
Silver Goblets, pair-oar.....	1845	" " "
Diamond Sculls, single.....	1844	" " " except Ten Eyck, of Worcester, Mass., in 1897.

In the Diamond Sculls, where most of the foreign entries have been made, no American has ever won until this year, and this summer the final heat was between two Americans. The important fact is that Ten Eyck completely outclassed all the Englishmen.

Look at the two systems of training and then consider the climate along the Thames and along Long Island Sound. The American system of training, which is very generally in vogue among all the colleges in the northeastern portion of the United States, is to row all through the winter indoors in tanks, to run after practice, and end up the day's labor by going through a drill with pulley weights. In the early spring, as soon as the rivers are open, the men get into their boats and row in the after-

noon six days in the week, practising in pair oars in the morning. Towards the early days of June the crews go to New London or Poughkeepsie and do nothing but row for three weeks. The eight go out in the morning and in the afternoon, pair oared work being slipped in between times. This continues without respite, except on Sundays, till two or three days before the race. The food during this time is hearty; and variety, within certain limits, is allowed. Drinking is confined to water in small quantities and to milk, with an occasional bottle of ale for dinner.

In England the coaching for crews is so different that little or no comparison is possible. The 'Varsity crews of Oxford and Cambridge are not chosen until after the college boat races in December. Then the 'Varsity boats are made up from the best men in the college eights, and they are trained six weeks at Henley. There is little or no competition for places in the boat, and each man comes to his place an already accomplished oarsman, well taught in the one stroke used in England. He has nothing new to learn. He needs merely to get in with the other seven. With us many a man rows for the first time when he sits in a 'Varsity boat, and he must, therefore, be actually taught to row. Others come from class crews, and they perhaps have to unlearn the stroke in order to pick up the new one taught by the 'Varsity coach. The element of instruction is, therefore, present in our boats, as well as that of team work; whereas in England the time is devoted solely to perfecting an already well-known stroke. The Henley crews are made up after the 'Varsity races, and the training is confined to a few short weeks on the course. Their climate is such that they can row out-of-doors all the year round if they choose to, and hence gymnasiums are practically unknown in England. The business of "getting into condition" is not a feature of their work. They row continually, and the training is merely the work of a coach in making eight of them row together. From time to time, during the weeks when the crew are training at Henley, they are taken away from the Thames, and sent on a trip to Brighton, on the English Channel, where Saturday and Sunday are spent away from rowing, and in a different atmosphere. Our crews, however, are accustomed when they are on the British Thames to keep up their hard work morning and afternoon, rowing six days in the week; and each time they have lost their sprint quality before the day of the intended race. Yale, in

1896, was unable in the last half of the race to get the stroke up above thirty-four, while Trinity reached thirty-eight. The energy of the men was gone after three-quarters of a mile. They might have kept to the thirty-four stroke for four miles, but they had neither the snap nor the strength to meet Langford's endeavor to keep the speed of the stroke up to the spurting point for one mile and a furlong.

This would go to suggest that the hard training of American athletes is too much for the low malarial valley of the Thames ; or, to put it otherwise, that the damp, enervating climate of England does not require and cannot stand such severe training as does and can the more vigorous atmosphere of New England.

A most interesting and instructive bit of additional evidence in this matter has just been given in the Poughkeepsie races which took place at the end of June and in early July. Harvard, coached by Mr. R. C. Lehman, perhaps the best rowing teacher in the world, not only lost the race, but the stroke oar collapsed just before the race ended, and the forward men in the boat were as near to a state of collapse as they could well be. The style of stroke could scarcely be to blame for this, as Yale rowed practically the same, and though all the discussions as to the weakening effect of long body swings may have some sound basis of reasoning, they cannot explain this difference between Yale and Harvard on this occasion. Consider rather the situation as it was, remembering at the same time that a man who is overtrained will show the same state of mind and body as one who is not trained at all. Mr. Lehman is accustomed to the Thames Valley, a much more enervating climate than ours. He trained the men for this. He gave them Saturday and Sunday off, in much the same way as he does to his crews in England. He let them have claret and gave them occasional dinners with wine, just as he has done for years with his crews when they ran down to Brighton for their rest. Then the Harvard men had a rest of a week or ten days before the race. The result was that, after taking the lead at the start, they collapsed before the finish, precisely after the manner of Cornell and Yale in the preceding years on the Thames. These crews, coached according to American methods, were overtrained in England, and the Harvard crew, coached by English methods, was actually undertrained in the United States. And though the Leander crew of 1896 and

the Cornell crew of 1897 were both remarkably fast crews, the state of collapse to which their opponents were reduced at the close of both races was caused by condition and not by stroke.

To a sufficiently marked extent the same is true of other sports in the athletic class, the results being distinctly traceable in each case to condition, and not always to style and physique. The London Athletic Club track team which came to America two years ago not only had to run on the hottest fifth of September which either we or they had ever known, and which naturally affected them more than it did our men, but Mr. Horan, Mr. Jordan, and others of the team found that with their methods of training they could not get into trim or keep there in this climate. Their diet was less restricted than that of their American rivals. Their exercise was light compared with that of our men. They did not run as often in the week, nor train as severely during the time they were running. Some of them gave as a reason for this that they could not stand the hot weather, and no doubt the heat had much to do with their taking less exercise; but the New York Athletic Club men and those who represented Yale maintained during all this time their regular training, which involved exercise, food, and hours that would have completely prostrated the Englishmen. Some of the latter felt just before the meets that they were not at all up to their usual mark; yet during the races the long-distance men fairly equalled their records, and it was only in the sprinting events that they fell short. Their capacity for nervous, sudden, short work had to a certain extent gone. This again was attributed to the heat; but the heat, if that alone had affected them, must necessarily have shown its results in the long distances as well as in the short ones.

In like manner, when the Yale track team went to England to meet Oxford in July, 1894, they came upon certain conditions in athletics that were new to them. These might in themselves be sufficient to defeat one team by causing it to lose two or three points. But comparing this meet with that of the Cambridge-Yale team here, and both with the London Athletic Club, the differences in customs and rules do not fit all three cases. On the other hand, here are the facts of the three meets. The Yale men in England, with records in the 100-yards of $10\frac{1}{8}$ seconds, were beaten by Fry and Jordan in $10\frac{3}{8}$ seconds, and that was as

good as Jordan had ever done before. Cady, the Yale hurdler, was beaten in $16\frac{3}{4}$ seconds, and fell while trying to keep up with Oakley, of Oxford, though he had a record in America of 16 seconds flat, and Oakley had never beaten $16\frac{3}{4}$. Sanford, holding the half-mile record of $50\frac{2}{5}$, was beaten by Jordan in 51 seconds. In the hammer throwing, broad jumping, and weight putting events, however, the case was quite different. Sheldon won the broad jump in 22 feet 11 inches, which was nearly up to his regular standard, while Hickok put the shot 41 feet $4\frac{1}{4}$ inches, and threw the hammer 110 feet 5 inches, both of which were good exhibitions of what might be expected of him, and both of which won. The Englishmen here in the United States in the following year failed to equal their sprints, with the exception of Bradley, while in the long distances Jordan did very nearly as well as he had ever done, and Robertson came up to his regular distances with the hammer and shot.

What is the reason for this? It appears to be that the snap which wins races is taken out of Englishmen competing in America and Americans competing in England; that those events which depend most on the nerves and exact conditions of mind and body are most affected, and disastrously so, by the altered conditions which the contestants meet in foreign countries. It was said by high authorities in such matters at the time of the Yale-Oxford meet that the Yale men were over-trained, that the result of the games showed that our system of training was too severe, and that we should study the English systems and benefit thereby. No doubt the Yale men were over-trained for that meet in England, but the critics missed an important point in their discussions. For, though the Americans had been trained too severely for England, they were not over-trained the next year in America for a similar meet, though the same man trained them in both years in precisely the same way, according to the same systems, for the same events; and they won in this country and lost in England against practically the same men. In other words, the system of training which is required by the American climate to bring a man to a fit condition is too severe to bring him to the same condition in the English climate.

It appears, therefore, that if Americans are to run or row with Englishmen in England they must do it within ten days after their arrival there; that is to say, before the condition of the

men has become affected by the climate and after they have sufficiently recovered from sea-sickness and the cramping influences of shipboard. Even then the trip over the sea must always be a handicap; and hence an international event of this nature can scarcely be a fair test of relative strength.

What is shown in relation to this when other sports are considered, which are not so sensitive to variation in the regularity of training? What have we done in tennis, golf, cricket, racquets, and baseball? There have been but few meetings between Englishmen and Americans in these sports; but such as have occurred go far to witness that in such sports the representatives of the two nations are on even terms in either country provided they start comparatively even in ability. Englishmen, of course, play cricket better than we do. They are brought up on it and should defeat us in the majority of cases, as we can defeat them in baseball. Still, the capacity of the American for playing any game is well illustrated by the work which the Gentlemen of Philadelphia have done in England this summer. They have shown surprising and unexpected ability in their encounters with the best teams in England. Speaking generally, however, cricket requires no training, that is, no such variation from ordinary diet, or hours of sleep and exercise, as the hundred-yard dash, for example, requires; and the players are less susceptible, therefore, to changes in climatic conditions. That this is the case seems to be indicated by the work of the Philadelphia team, as well as by that of the British teams which have from time to time visited this country. The same can be said in a general way of tennis and racquets. As a rule the Englishmen can defeat us here and in England in both these sports, because we have not gone in for these two athletic games as they have. Nevertheless our representatives when in England have as a rule made quite as creditable a showing as they were expected to do, judging from their work here.

The influences of climate on physical condition in rowing and track athletics correspond to the influences of water, winds, and courses on models and sailing tactics in yacht racing. We have not succeeded since the days of the "America" in defeating English boats in English waters, and English boats have been invariably beaten here. The choppy seas of the Channel and the complications in the semi-inside courses are all unknown to us on this side

of the Atlantic. Besides this, the necessity for constructing a craft that can cross the Atlantic is as much of a handicap to the visiting boat as is the sea voyage to the athletic man. Yacht models are practically alike to-day so far as general lines go, but the man who is sailing in his own waters has an infinite advantage, and for an Englishman to win outside Sandy Hook or an American in the Solent means that the boat in each case must practically outclass the other, which was, in fact, the case with the "America."

Here appears to be a fact established, therefore, that in certain athletic sports the American competes in England under practically fatal disadvantages, as does the Englishman in America. It seems probable that for many years to come these particular sports cannot be conducted in international meetings on terms which are even for both sides; and it may be that if we are ever to secure absolutely even conditions between the teams engaging in international events the teams will have to be trained in the country where they are to compete; which means that the men composing them must practically become for the time inhabitants of the country they would otherwise merely visit.

This seems like a pessimistic view of international athletics. While, however, the hope of winning victory is one of the factors which keeps sport alive, it is not the only reason for athletic games. One of the two contestants in any competition must lose; and defeat, though a disappointment, is never a disgrace, provided the loser has done his best in preparation and during the contest. In spite of the fact, therefore, that we are likely to lose in England, and that Englishmen are reasonably certain to be defeated in this country, so much may be learned of each nation by the other through international competitions, as well as of sport by both, and so much may be acquired by Americans of their cousins' larger experience in athletics, that we at least should encourage these athletic meetings on either or both sides, of the Atlantic. We may not win half the victories in England but we shall learn much of sport and do a great deal for outdoor life in our own country, as indeed we have done through the meetings that have already occurred.

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